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Remarks:

Reconsideration of the application is requested.

Claims 1 to 10 remain in the application. Claims 1, 2, 3, 4, 6, 7, and 8 have been amended. A marked-up version of the claims is attached hereto on separate pages.

On page 3 of the above-identified Office action, the Examiner objected to claim 8 questioning the relativity of the average roughness of the surface determined by the slats.

The phrase "average roughness" is a technical term that is known to one having ordinary skill in the art. Specifically, the "average roughness" is a measuring value defined, for example, in the German Industrial Norm DIN 2310-1 and abbreviated with the symbol " $R_z$ ." The average roughness  $R_z$  should not be mistaken with the average peak-to-valley height  $R_a$ . For the Examiner's convenience, applicants herewith provide an explanation of the term, as it appears in the German-language, from a technical book known to one having ordinary skill in the art. The book provides that  $R_z$  is an arithmetic mean of individual roughness including five consecutive individual measuring paths. One having ordinary skill in the art knows that the "average roughness  $R_z$ " is often translated from German to "arithmetical average height" in English. In the literature, the translation "average peak-to-

"valley height" is sometimes not used for both measuring values; for example, see the enclosed Internet article describing the average roughness  $R_z$  and the enclosed excerpt from a dictionary for an average peak-to-valley height ( $R_a$ ). Accordingly, claim 8 has been amended to replace the phrase "average roughness" with the phrase --arithmetical average height-- merely for clarity. No new matter has been added. The change is neither provided for overcoming the prior art nor does it narrow the scope of the claim for any reason related to the statutory requirements for a patent.

For the above-mentioned reasons, applicants respectfully request withdrawal of the objection to claim 8.

On page 2 of the above-identified Office action, claims 1 to 3 and 5 to 10 have been rejected as being obvious over Czotscher (U.S. 5,476,041) under 35 U.S.C. § 103.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and, therefore, the claims have not been amended to overcome the references. Claim 1 has only been amended for clarity of readability.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 10 calls for, *inter alia*, a printing machine including:

at least one roller with a circumferential surface provided with a surface structure and formed of a nonmetallic material, the roller selected from a slip roller and a vibrator roller.

Similarly, claim 1 calls for, *inter alia*, a rotatable body for printing machines, the rotatable body including:

a circumferential surface provided with a surface structure and formed of a nonmetallic material, the circumferential surface being a roller selected from a slip roller and a vibrator roller.

When citing Czotscher in support of the rejection, the Examiner refers to col. 9, lines 8 to 11, therein. Upon review of the cited passages (and elsewhere), even though the rubber blanket cylinder described in the cited passage has a circumferential surface made of a non-metallic material, i.e., it is "rubber", the rubber blanket cylinder is not a slip roller and nowhere does Czotscher disclose or suggest a circumferential surface a "surface structure" as set forth in claims 1 and 10.

Furthermore in support of the rejection, the Examiner denotes a vibrator roller shown in Czotscher at FIG. 1a with reference numeral 11. Obviously, the Examiner is actually referring to vibrator roller 11' (*contra* adjusting nut 11 in FIG. 3).

However, the vibrator roller 11' is only mentioned in col. 4, lines 18 and 19. Nowhere else does Czotscher discuss this roller 11', and Czotscher especially does not discuss an embodiment of the circumferential surface of the vibrator roller 11'.

Next, the Examiner refers to a "roller for carrying ink (fig. 1a, 12)" in support of the rejection. The roller is allegedly shown in FIG. 1a and is also allegedly "in permanent engagement with two other two rollers (fig. 1a). Reference numeral 12 in Czotscher, however, does not relate to a roller, it relates to a "small opening." See Czotscher at FIG. 1 and col. 5, lines 13 to 16, 33, col. 6, line 56, and col. 7, lines 11 and 35.

Reference numeral 12' is present in Czotscher, but that numeral does not refer to a roller. Rather, it refers to the inking unit 12'. See Czotscher at col. 4, lines 17 and 20. It is possible that the Examiner is actually referring to that roller in the vicinity at which the reference line for reference numeral 12' ends. Czotscher, however, does not

provide any information with regard to such a roller, which is illustrated in FIG. 1a therein. Czotscher especially does not disclose that the circumferential surface of that roller -- a roller not described in any detail -- has a "surface structure" and is made of a "non-metallic material" as set forth in claims 1 and 10. Czotscher particularly does not disclose or suggest that this non-described roller is a "slip roller".

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 10. Claims 1 and 10 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 10.

Insofar as claim 4 is ultimately dependent upon claim 10, and due to the fact that claim 10 is believed to be allowable, claim 4 is believed to be allowable as well. Thus, the rejection of claim 4 on pages 2 to 3 of the Office action under Section 103 is now moot.

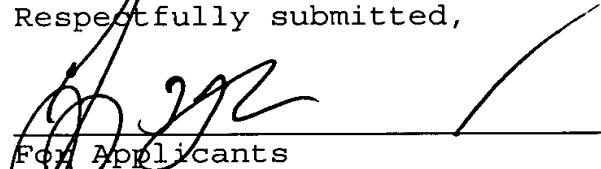
In view of the foregoing, reconsideration and allowance of claims 1 to 10 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Petition for extension is herewith made. The extension fee for response within a period of one (1) month pursuant to Section 1.136(a) in the amount of \$110.00 in accordance with Section 1.17 is enclosed herewith.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

  
For Applicants

GLM:cgm

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July 16, 2001

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Version With Markings to Show Changes Made:

Claim 1 (amended). A rotatable body for printing machines, the rotatable body comprising: [having]

a circumferential surface provided with a surface structure and formed of a nonmetallic material, [comprising] said circumferential surface being a roller selected from the group of rollers consisting of a slip roller and a vibrator roller.

Claim 2 (amended). The rotatable body according to claim [1] 10, wherein said roller serves for carrying one of ink and emulsion.

Claim 3 (amended). The rotatable body according to claim [1] 10, wherein, during printing, said roller is in permanent engagement with two other rollers.

Claim 4 (amended). The rotatable body according to claim [1] 10, wherein the surface structure is a groove running helically in the circumferential surface.

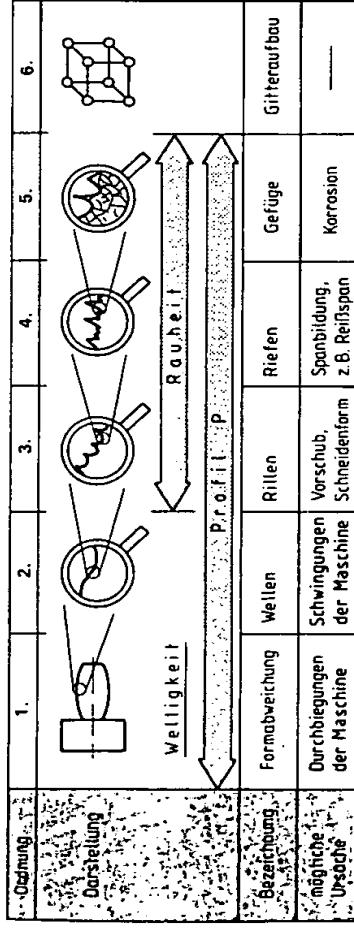
Claim 6 (amended). The rotatable body according to claim [1] 10, wherein the surface structure is made up of a multiplicity of dimples formed in the circumferential surface.

Claim 7 (amended). The rotatable body according to claim [1] 10, wherein the surface structure is formed of slats.

Claim 8 (amended). The rotatable body according to claim 7, wherein [average roughness] an arithmetical average height of the surface structure, determined by the slats, is at least 12 microns.

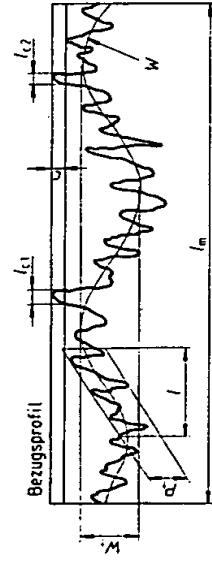
## Oberflächen

### Gestaltabweichungen



Technisches Zeichnen

### Meßgrößen am Istprofil P-Profil, (ungefiltert)



$P_1$  Profiltiefe ist der senkrechte Abstand zwischen zwei parallelen oder äquidistanten Bezugslinien, die das Istprofil innerhalb der Gesamtabstandskette kleinstmöglich erschließen.  
Da  $P_1$  von  $R_a$  abhängt, müssen beide Größen angegeben werden, z.B.  $P_1 = 1 \mu\text{m}$ ;  $R_a = 40 \mu\text{m}$  (in Zeichnungen vereinfacht:  $40/P_1$ ).

$W_t$  Wellentiefe ist der senkrechte Abstand zwischen zwei parallelen oder äquidistanten Bezugslinien am Wellentiefeprofil (Rauheit ausgetilft).

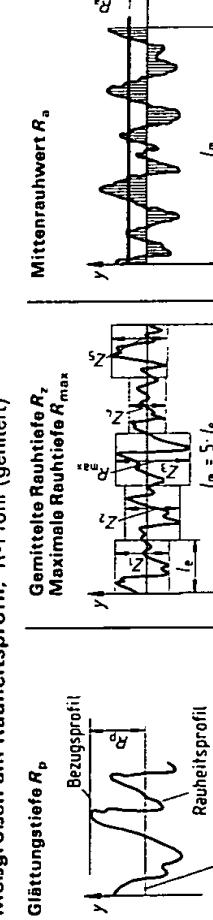
$I_c$  Tragende Länge ist die Summe der Schnittlängen innerhalb der Meltsstrecke  $l_m$ : über die Spitzen des Profils wird eine Gerade gelegt (Bezugsprofil). Wird sie um einen genormten Betrag  $c$  in das Profil verschoben, so schneidet sie einzelne Strecken  $l_{c1}, l_{c2}, \dots, l_{cn}$  aus.

$$\text{Berechnungsbeispiel: } c = 0,25 \mu\text{m}, l_m = 4,8 \text{ mm}, l_{c1} + l_{c2} + \dots + l_{cn} = 0,34 \text{ mm}; l_{c1} = 0,25 \text{ mm}$$

$t_{ba}$  Makro-Profilanteil ist das Verhältnis  $t_c$  zu  $l_m$ , z.B.  $c = 0,25 \mu\text{m}, t_c = 0,25 \mu\text{m}, t_{ba} = 0,25 = 7\%$ .

$t_{sa}$  Makro-Flächentraganteil. Entsprechend  $t_{ba}$  jedoch bezogen auf die Fläche. Dabei wird statt  $c$  der Flächenanpreßdruck  $p$  in  $0,1 \text{ N/mm}^2$  angegeben, z.B.  $t_{sa} = 40 = 13\%$ .

### Meßgrößen am Rauheitsprofil, R-Profil (gefiltert)



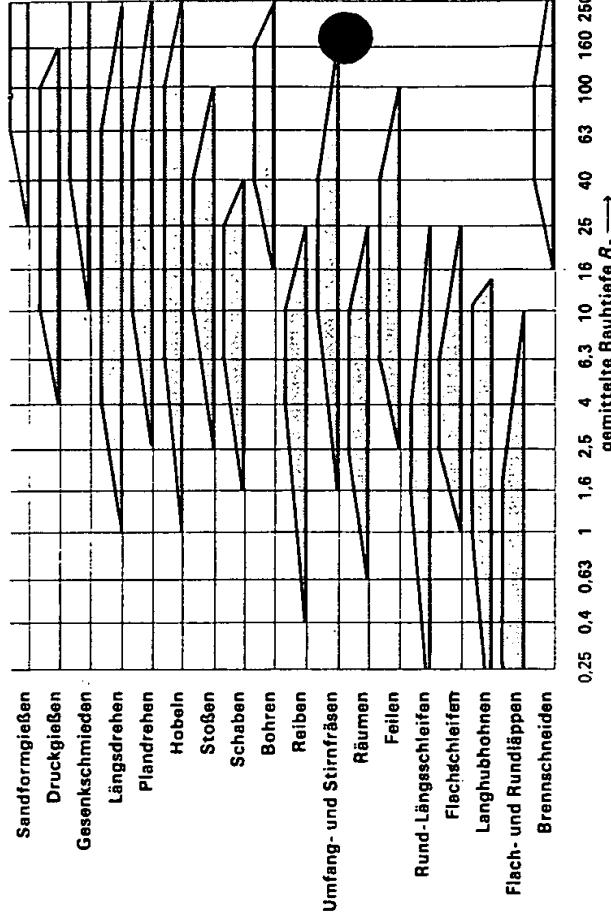
$R_a$  ist das arithmetische Mittel aus Einzelaufnahmen für aufeinander folgender Einzelmessstrecke.  
 $R_{\max}$  ist der größte Z-Wert des R-Profilis.

DIN 2310-1

## Oberflächenrauheit

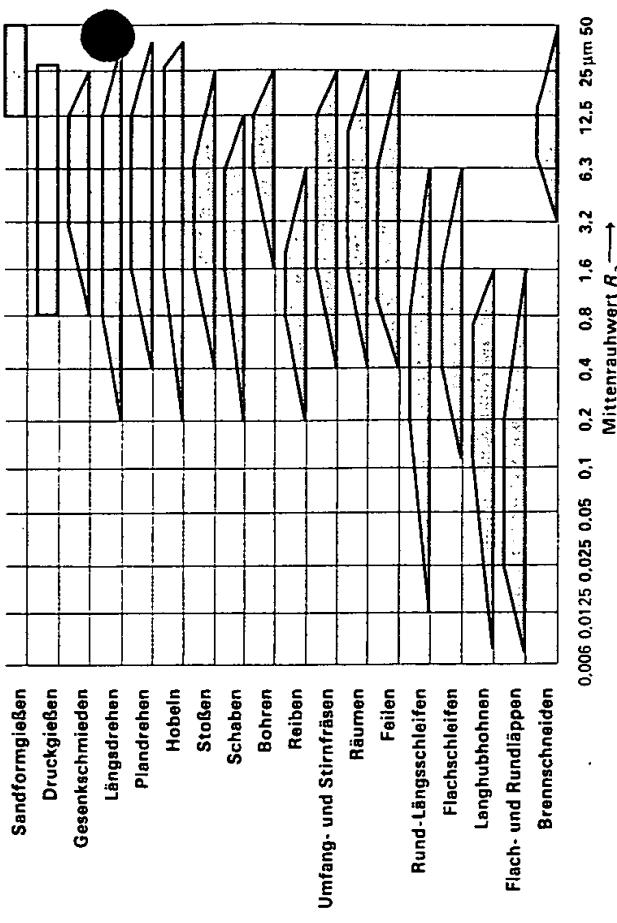
### Erreichbare gemittelte Rauhtiefe $R_a$

Ansteigender Balken gibt Rauhwerke an, die nur durch besondere Maßnahmen erreichbar sind.  
Abfallender Balken gibt Rauhwerke an, die bei besonders großer Fertigung auftreten.



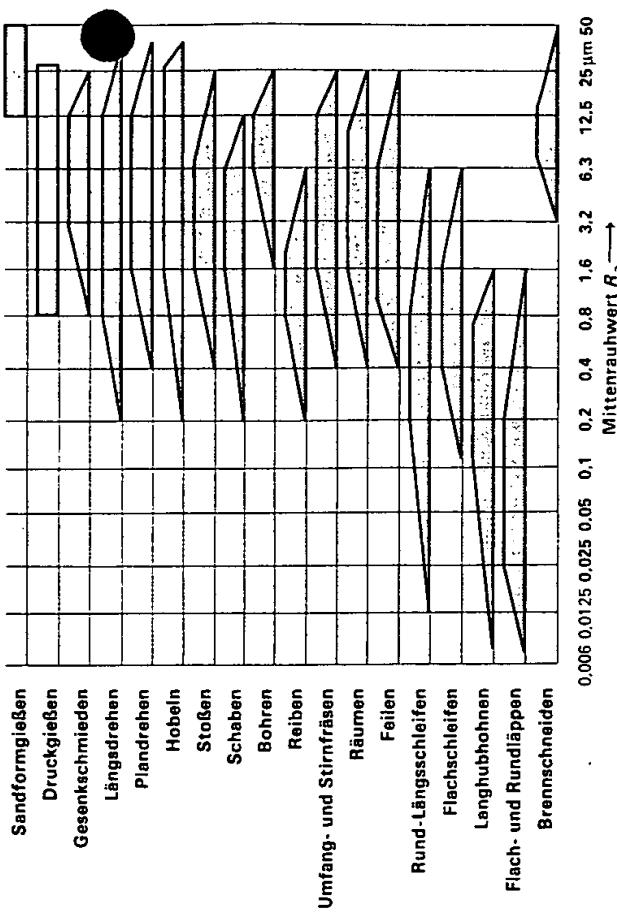
### DIN 4766 T 1 (3.81)

Ansteigender Balken gibt Rauhwerke an, die nur durch besondere Maßnahmen erreichbar sind.  
Abfallender Balken gibt Rauhwerke an, die bei besonders großer Fertigung auftreten.



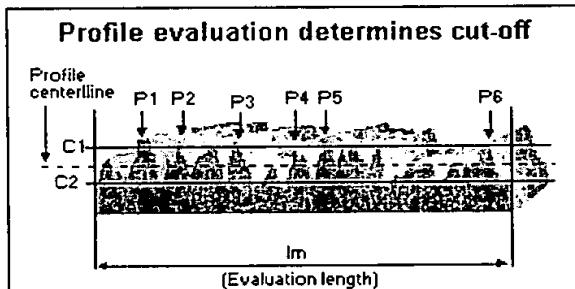
### DIN 4766 T 2 (3.81)

Ansteigender Balken gibt Rauhwerke an, die nur durch besondere Maßnahmen erreichbar sind.  
Abfallender Balken gibt Rauhwerke an, die bei besonders großer Fertigung auftreten.



$R_a$  ist die Höhe des Rechtecks mit der Länge gleich der Gesamtmeßstrecke  $l_m$ . Das Rechteck ist flächengleich mit der Fläche zwischen Rauhtiefeprofil und dem mittleren Profil.

On surfaces that do not meet typical-surface criteria, cut-off may be determined by evaluating the leveled, unfiltered profile. You can use the peak-counting feature of your measuring system to perform this evaluation (see "Profile evaluation determines cut-off"). First, you must determine the peak-to-peak spacing ( $Sm$ ). To do this, multiply the average peak-to-valley height ( $Rz$ ) by 0.2 and then set the first and second counting thresholds ( $C1$  and  $C2$ ) at the positive and negative points of that value, respectively. Once you have determined  $Sm$ , you can find the minimum cut-off by multiplying  $Sm$  by 2.5. To find a more preferable cut-off, multiply  $Sm$  by 5.




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**The peak-counting technique can be used to evaluate a leveled, unfiltered profile. Each time the profile passes through the first counting threshold ( $C1$ ), a peak ( $P$ ) is counted. Another peak will not be counted until the profile passes through the second counting threshold ( $C2$ ).**

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Another method is to increase the cut-off on a measurement to the next highest level. If this results in an increase in the surface-roughness value of 25% or more, chances are the former cut-off setting was too low.

These guidelines are just that--guidelines. Certain manufacturing processes and functional requirements may need a different cut-off. In any case, good judgment, common sense, and a fundamental understanding of how surface-roughness filtering operates will go a long way toward the proper cut-off selection.--Ronald A. Lavoie  
*Ronald A Lavoie is president of Hommel America Inc., New Britain, CT, a manufacturer of surface-roughness-measurement equipment.■*

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#### Cut-off selection guidelines

Process	Average roughness (Rs)	Recommended cut-off

Dreiecks / median line (of the triangle) || **linie des Profils** (Luft) / mean camber line || **linie eines Stabes** (Stahlbau) / axis of a member || **Linienbeleuchtung** f (Luft) / center line lighting || **lot** n.s. Mittenskreiche || ~mäßig, mäßig / moderate, mediocre || **mauer** f / inside o. interior wall

**Mittelmeerfruchtfliege** f / Mediterranean fruit fly

mitteln, ausmitteln / take the mean

**Mittelnitschler**, -frotteur m (Textil) / second

bobbins drawing box || **Öffnung** f. Hauptöffnung f (Brück) / main arch || **Öl** n / middle [tar] oil || ~öl.

Phenolöl n / carbolic oil || **patent** n (Wirkm) / spindle control mechanism at center of machine || **pfeiler** m / center pier; ~pfeiler (einer Tür) / intermediate jamb, middle jamb || **pfette** f (Bau) / center purlin || **pfosten** m (Fenster) / mullion, munition, monial || **plicht** f (Schiff) / central cockpit || **pufferkupplung** f (Bahn) / central buffer coupling

**Mittelpunkt** m (von Strecken) (Math) / mid-point, central point || ~m. Zentrum n / center (US), centre (GB), im ~ befindlich / centric[al] || **nach dem** ~ strebend / centripetal || **Abstand** m / distance between centers || **Abweichung** f (bei Führungslochern) (EDV) / centre-of-hole deviation || **Ausbreitung** f (Radar) / open centre control, center expansion || **Körner** m (Wzm) / center punch || **Kurve** f / center point curve || **Lehre** f / centering gauge

**Mittelpunktaufweitung** f (Radar) / expanded center || **Gleichung** f (Kreis) / equation of a circle with the origin at the centre, ~leiter ms. Mittleiter || **Schaltung** f (Trafo) / mid-point tapping || **Speisung** f (Antenne) / apex drive (US), centre feed (GB) || **Transistor**, Spannungssteiler m (Elektr) / a.c. o. static balancer || **Winkel** m / angle at center

**Mittelquadrat** n (Flugsicherung) / center square || **Rahmen** m (Tür) / lock rail; ~rapport m (Färb) / center repeat || **Riegel** m (Zimm) / crossbrace || **Riegel** (Tisch) / middle cross piece || **Rohrrahmen** m (Kfz) / center tube frame || **Saft** m (Zuck) / half-concentrated o. middle juice || **Schaft** m / middle jamb || **Scheibe** f (an Vielstreifenscheren) / intermediate disk of slitting rollers || **Schicht** f / medial layer || **Schiene** f (Bahn) / center o. central rail, middle rail || **Schiene**, Leitunge f einer Kreuzung (Bahn) / junction-rail of a crossing || **Schiff** n, -halle f (Stahlbau) / center o. middle bay || **Schifter** m (Zimm) / intermediate jack rafter || **Schlächtig** (Hydr) / middle-shot, breast-shot, center-float | in **schmutzigem Wasser**

gediehene Pflanze / mesosaprobe || **Schneider** m (eines 3-teiligen Satzes) (Gewinde) / second tap, plug tap || **schnelles Neutron** / intermediate neutron || **schneller Reaktor** / intermediate [spectrum] reactor, epithelial reactor || **Schnitt** m (Landw) / middle cut (2" spacing) || **Schrift** f / medium-spaced lettering || **schwarz** / medium black || **Schwelle** f (Bahn) / intermediate sleeper, ~schwere (o. mittlere) Bespulung (o. Pupinisierung) (Fernm) / medium loading || **senkrechte** f (Dreieck) (Math) / mean perpendicular, mid-perpendicular || **Sorte** f / medium quality || **Spannung** f (GB) (Elektr) / medium voltage (250-650 V) || **Spannung** (Dauerversuch) / mean stress, steady stress component || **Spannung** (6-36 kV) / medium high voltage || **Stahlwalzwerk** n / intermediate rolling mill || **starkberegnung** f (7-17 mm/h) (Landw) / medium precipitation rate || **stellung** f, -lage f / central o. neutral position || **stellung, Zwischenstellung** f / intermediate position, ~stellung (Bremse, Bahn) / neutral position ||

**stellung** (Schalter) / neutral of a switch || **stellung** (Bremsventil) / lap position (driver's valve) || **stempel** m (Bergb) / center prop || **strafe** f (Walz) / medium plate mill, medium-sized rolling mill || **strecke** f / medium range || **strecken-, -bereichs...** / medium range... || **strecken-Fernlenk-Geschoß** n (Mil) / medium range ballistic missile, MRBM || **streckenflugzeug** n / medium-range aircraft || **streifen** m (Schreib) / central divider (GB) || **streifen der Autobahn** / central reserve (GB), median strip (US) || **strich** m (Straß) / center line || **strom**, Hauptstrom m (Hydr) / main stream || **stück** n / central o. middle piece || **stück** (Konverter) / body, belly || **stück einer Welle** / middle shaft, ~stütze f (Stahlbau) / king post || **support** m (Wzm) / center support || **teil** n einer Spule (Film) / core || ~thermal, mesothermal (Geol) / mesothermal || **töne** m pl (Pap) / medium tints pl || **ton-Lautsprecher** m / mid-range loudspeaker || **tonnage-Tanker** m / middle-size tanker || **träger** (Sicherung) / semi time-lag || **träger** m, -balken m / central beam o. girder || **träger einer breiten Holztreppe** / carriage of a stair || **trieb** m (Opt) / joint focus[s]ing arrangement o. wheel, central [twin] focussing device || **trieb** (Zirkel) / spring-bow center wheel || **u. Feinstahl- u. Drahtwalzwerk** n / intermediate small-section and wire rolling mill || **verteiler** m (Elektr) / cellular-type distribution switchboard, ~wagen m im **Triebwagenzug** / center trailer || **walze** f / central o. middle roll || **wand** f (Holländer, Pap) / midfeather, ~wasser n, Gezeitennmitte f / half tide || **wasser** MQ (in m³/s) / mean water || **wasser einer Talsperre** / average flow of a barrage || **wasserstand** m, MW (in cm) / mean water level || **weiß** n (TV) / equal signal white || **welle** f (100-1000 m) (Elektronik) / medium wave (200-1000 m), hectometer o. hectometric wave || **wert** m / average o. mean [value] || **wertkupplung** f (Nukl) / intermediate coupling || **wertmesser**, Impulsfrequenzmesser m (Strahlung) / ratemeter || **wertsanzeige** f / average reading || **wertverfahren** n, -wertmethode f / mean value method || **Winkel** m / central angle || **wolle** f (Textil) / middle worsted || **zug** m (Drahtzieh) / second wire drawing

|| **Mitten...** / centric[al], center... || **...Mittel...** / middle || **Abstand** m / distance from centre to centre, center distance || **Abweichung** f / center deviation || **angezapft** (Elektr) / mid-tapped || **Ansatz** m (Masch) / center stop o. dog || **anzapfung** f (Elektr) / central tapping || **-Einheit** f (Rundschaltisch) / center main base || **-Einheit** (Wzm) / multi-sided center base || **frequenz** f / center frequency, mit einer ~frequenz [von] (Fernm) / centered [at] || **kehlfläche** f (Schneckengetriebe) / reference toroid || **kreis** m (Schneckengetriebe) / reference circle || **kreis-Durchmesser** m (Schneckengetriebe) / reference diameter || **kreisteilung** f (Schneckengetriebe) / reference pitch || **markierung** f / center marking || **markierung** (Repro) / centering arrows pl || **nullpunkt** m (Instr) / center zero || **rauhwert** m / average peak-to-valley height || **schneider** m (DIN 5237) / center cutting nippers pl, middle cutter || **schneidgerät** n / center cutter || **stellung** f / center position, ~umfang m (Holz) / mid-[timber]girth || **versatz** m / mismatch || **verstärkung** f / central boss || **warze** f (Federblatt) / central wart (laminated spring) || **zylinder** m (Schneckengetriebe) / reference cylinder || **zylinder-Schraubenlinie** f (Schneckengetriebe) / reference helix

mittig / in [dead] center, centric[al] ~, achsial /